#1

PROPERTY OF
THE NATIONAL ASSOCIATION OF COST ACCOUNTANTS
OUT OF PRINT
NEW YORK CITY

N. A. C. A. BULLETIN

Vol. XVIII, No. 3 October 1, 1936

LIBRARY

IN TWO SECTIONS

Section I

IN THIS ISSUE

A Cost Plan for the Knitting Industry, by Clinton W. Bennett 143

This Bulletin is published semi-monthly by the National Association of Cost Accountants, 385 Madison Avenue, New York. Subscription price, $10.00 per year. Entered at the Post Office, New York, N. Y., as second-class matter August 28, 1925, under the Act of March 3, 1879.

EDITORIAL DEPARTMENT NOTE

There is a great need for adequate accounting and control methods in the smaller manufacturing concerns. These small units as a group probably produce the bulk of our manufactured goods. So long as these small and medium-sized concerns attempt to operate with inaccurate and inadequate accounting methods, competition in each industry will be of the uninformed type which has led to so many business failures and so much lost capital in the past. Probably the greatest deterrent to the development of adequate cost accounting and control in the small industrial units has been the feeling on the part of those in control that the improved methods which have been developed in recent years cannot be applied to their concern but are available only to the larger manufacturers who can afford the high overhead of excessive cost departments. But such is not the case as pointed out by the author of the present article. We are pleased to present this article, "A Cost Plan for the Knitting Industry," as an illustration of the way in which standard costs can be developed in small or medium-sized concerns without the development of a large and excessive cost department.

The author of this article is Clinton W. Bennett, a Vice President of our Boston Chapter. Mr. Bennett entered professional work in 1916 and his activities from that time until 1925 covered many phases of industry, commerce and finance. For several years he was General Manager of the Robert Mason Co., of Pawtucket, R. I. He was for several years Supervising Cost Engineer with Cooley & Marvin of Boston, and is now Manager of the Cost Accounting Division of that firm.

Besides being a member of N. A. C. A., Mr. Bennett is Associate Member of the American Society of Mechanical Engineers and Associate of the American Institute of Accountants, a Fellow of the Massachusetts Society of Certified Public Accountants and a Certified Public Accountant of Massachusets and New Hampshire. He has spoken at our National Convention and before several of our chapters on numerous occasions. He has been a frequent contributor to technical articles for several issues of our Bulletins, as well as to several magazines.

COPYRIGHTED BY THE
NATIONAL ASSOCIATION OF
COST ACCOUNTANTS

OCTOBER 1, 1936

A COST PLAN FOR THE KNITTING INDUSTRY

By Clinton W. Bennett, Manager,

Cost Accounting Division,
Cooley & Marvin, Boston, Mass.

IT IS not intended that the plan submitted in this monograph shall be construed as applying to all mills and all conditions in this most varied and complicated industry. Not only are there the usual number of varying problems that always exist in all industry but there are knotty specific phases to be faced in almost every mill that make each one quite a law unto itself. However, as in every other field of manufacturing, there are certain fundamental cost principles that apply to all knitting mills and the plan outlined herewith sets forth these methods, using, for purposes of specific illustration, the procedure that has been developed for and used by a representative knitting mill of medium size. By using the underlying principles enunciated, this plan can be adapted to any mill regardless of size; it is simply a question of soundly devised contraction or expansion. Particularly should the small mill be interested in this plan, for that is the mill which most needs the benefits offered by it. And because of its simplicity and lack of "red tape" no mill is too small to find its required details out of proportion to its inherent advantages.

General Plan of Control

The knitting mill lends itself admirably to the use of standard costs, therefore only this procedure shall be illustrated. Having determined upon this factor, the next step involves that of preparing the chart of accounts. This must be done at the outset, if all phases of the installation are to proceed in a straight and logical course. A suggested chart of accounts is shown in Exhibit 1. This chart first groups the accounts in the general ledger into the following three major classes:

1. Assets
2. Liabilities
3. Revenue and Expense

CHART OF ACCOUNTS

	ASSETS					LIABILITIES					REVENUE AND EXPENSE				
	A CURRENT	B INVENTORY	C FIXED	D DEFERRED		E CURRENT	F COST VARIANCES	G RESERVES	H CAPITAL		I SALES DEDUCTIONS, CREDIT	K OTHER	L MILL BURDEN	M COMMERCIAL EXPENSE	
1	Cash in Office	Wool Yarn	Land		1	Payroll Accrued	Yarn Cost Variances		Capital Stock Preferred	1	Sweater Sales	Sundry Sales	Superintendence	Officers' Salaries	1
2	Cash in Bank-B	Cotton Yarn	Buildings		2		Webbing Cost Variances	Reserve for Depreciation Buildings		2	Jersey Sales	Income from Investments	Indirect Labor	Office Payroll	2
3	Cash in Bank-A	Worsted Yarn	Machinery and Equipment		3		Waste Variances	Reserve for Depreciation Machinery & Equipment		3	Bathing Suit Sales	Income from Bonds		Telephone, Telegraph & Postage	3
4	Accounts Receivable Trade	Webbing Purchased			4	Accounts Payable Trade	Findings Variances		Surplus	4	Other Product Sales	Discount Received	Heat, Light, Heat and Power		4
5					5		Labor Cost Variances			5		Interest Received		Office Supplies and Expense	5
6	Accounts Receivable Branches	Waste			6	Accounts Payable Personnel	Burden Cost Variances	Reserve for Depreciation Furniture & Fixtures	Dividends	6			Repairs	Officers' Insurance	6
7	Accounts Receivable Personal	Supplies	Furniture and Fixtures		7		Commercial Expense Variances			7	Returns and Allowances		Supplies Used		7
8	Notes and Acceptances Receivable			Interest Prepaid	8	Notes Payable			Profit and Loss	8	Discounts Allowed	Interest Paid			8
9		Work in Process Findings	Investment		9					9	Freight Out	Other Expense	General Mill Expense	Store Expense	9
10		Work in Process Material	Other Investments		10					10				Traveling Expense	10
11		Work in Process Labor		Insurance Unexpired	11	Provision for Bad Debts				11	Cost of Sweater Sales		Insurance	Loss on Bad Accounts	11
12	Life Insurance Policies	Work in Process Burden			12	Taxes Accrued			Federal Taxes	12	Cost of Jersey Sales		Taxes		12
13					13					13	Cost of Bathing Suit Sales		Depreciation		13
14					14					14	Cost of Other Product				14
15					15					15	Commercial Cost of Sales		Mill Burden Clearing Account	Commercial Expense Clearing Account	15

Exhibit 1

KNITTING "Co. A"

Next, these three groups are further subdivided as tabulated below:

1. Assets:
   - A. Current
   - B. Inventory
   - C. Fixed
   - D. Deferred
2. Liabilities:
   - E. Current
   - F. Cost Variances
   - G. Reserves
   - H. Capital
3. Revenue and Expense:
   - J. Sales, Deductions, Costs
   - K. Other
   - L. Mill Burden
   - M. Commercial Expense

A sheet is placed in a loose leaf ledger for each of the accounts provided for on this chart and each is symbolized with a combination of the column letter and line number, for example, A1, Cash in Office; B4, Webbing Purchased; J3, Bathing Suit Sales. Thus the chart becomes an index to the ledger.

Our examination of the mill reported upon shows that no spinning operations are conducted; that raw material consists of purchased wool yarn, cotton yarn, worsted yarn and webbing. We also found that the mill knits a very considerable amount of webbing in addition to that purchased.

Products consist almost entirely of sweaters, jerseys and bathing suits.

Material Control

Direct material accounts have been provided as follows:

- B1. Wool Yarn
- B2. Cotton Yarn
- B3. Worsted Yarn
- B4. Webbing Purchased
- B7. Supplies

All material represented by these accounts is calculated as "direct" in determining the cost of the finished product. In this mill, webbing manufactured is considered as work in process until it is made up in a finished garment, instead of routing it through the complication of clearing it from in process to finished webbing and then back to work in process again at such time as the webbing is cut. An additional reason for this short cut exists in the fact that the production of webbing simply keeps ahead of the cutters. Supplies account includes findings only and while it is somewhat of a misnomer, the term is used in the mill in question and was, therefore, adopted on the chart of accounts. These findings include such items as:

Thread
Buttons
Cambric
Labels

Waste account, B6, is carried simply to show waste on hand at inventory periods.

Supplies as purchased will be charged directly to supplies used, account L7, thus obviating the detail of reporting the quantities of these various items used from month to month. If an unusually large purchase is made, it can be carried as a deferred charge and expensed over a short period.

Two methods may be used for transferring the cost of raw material from the raw material accounts to work in process. The first and most general method uses material delivered reports which show quantities of all classes of material put in process or otherwise removed from raw stores. These quantities are then priced at cost and summarized at the end of the month as the basis for bookkeeping entries which set forth the use of this material. In large mills, and in fact in all mills where an efficient raw material stores system is in operation, this is the plan to follow. In the medium size and small mill, where there is no adequate stores system, the second method should be used. This latter consists of taking a monthly inventory of all raw material on hand and pricing it at the lower of cost or market. Offhand, the average mill man throws up his hands at the suggestion of a monthly inventory. It should be remembered, however, that this monthly inventory ap-

plies only to the yarn, webbing and findings purchased and if the stocks of these materials are kept under proper physical conditions, the monthly inventory will involve no particular hardship. The physical inventory method was used in the mill under review.

When the cost of material used for the month has been determined following the inventory, this cost will be credited to the raw material accounts B1 through B7, with offsetting debits to the following three cost variances accounts:

F1. Yarn Cost Variances
F2. Webbing Cost Variances
F4. Findings Variances

It will be noted that provision is made for a waste variance account, F3. This was to overcome a particular and unusual problem in the mill in question and would not be of general application, therefore, it will not be considered in our presentation.

Having completed the steps enumerated above, the raw material accounts, B1 through B7, will at the end of the month set forth the actual raw material inventories on hand at the lower of cost or market, while the three cost variance accounts, F1, F2 and F4, will reflect the actual cost of these materials that were placed in process during the month.

Labor Control

When drawn, the payroll check will be debited to payroll accrued, Account E1. At the end of the month, a summary of all payrolls for the month whether paid or accrued will be prepared. This summary will serve to credit Account E1 with the payroll applicable to the month's operations. Account E1 will automatically reflect the amount of payroll accrued but not paid at the end of each month. The direct labor portion of this payroll will be charged to the labor cost variances account, F5, while the indirect labor portion will be charged to the appropriate accounts in the burden and commercial expense sections of the chart.

As a part of this problem of labor control comes the procedure to adopt in determining unit labor costs to apply to specific products. Previously, it has been stated that standard costs are to be used. That step having been determined upon, it becomes necessary to arrive at these labor cost standards. There are two basic

		STOP	Order No.
		START	
		STOP	OPER. OPER'S NO.
		START	
		STOP	OPERATOR'S NAME
		START	DATE DONE
		STOP	QUANTITY
		START	DIRECT LABOR TICKET
		STOP	Order No.
		START	
		STOP	OPER. OPER'S NO.
		START	
		STOP	OPERATOR'S NAME
		START	DATE DONE
		STOP	QUANTITY
		START	DIRECT LABOR TICKET

Form 57

Exhibit 2

methods to follow in this connection. One calls for developing the standards through the use of time studies. The other method achieves the result by using labor reports and compiling standard units from the data thus obtained. Both methods are frequently used in a given plant. If time studies only are used, no labor development forms need be shown. Since, however, many mills prefer the other method, suggested forms and procedure will be briefly outlined.

Exhibit 2 sets forth a labor ticket that I have used with success. This applies where time clocks are available in the departments. This form can be used for either job orders or operational labor cost determination. In the latter case, the order number will re-

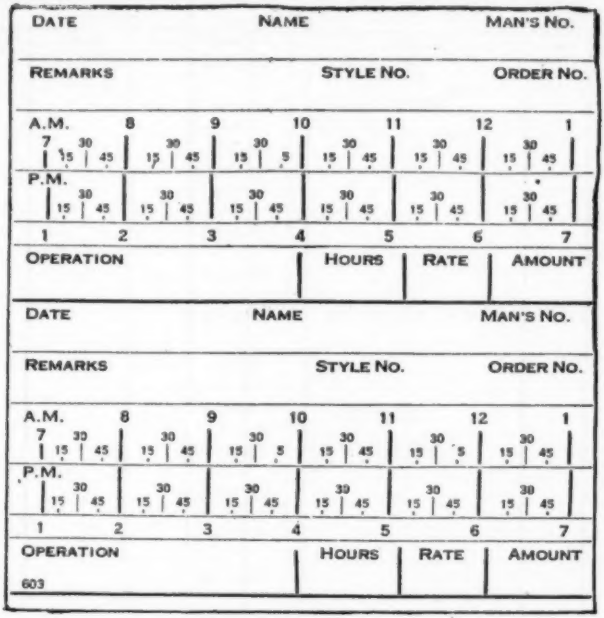


Exhibit 3

flect the symbol of the product worked on. A slightly different form of labor ticket is shown in Exhibit 3. The latter is used where there are no departmental time clocks available. In using this form, the operative simply draws a pencil line on the time scale to reflect the time spent on the particular work. As these job cards are received at the office, they are checked up daily against the clock in and out cards for the same workmen and exceptions immediately corrected. Postings are then made to an operation sheet such as the one illustrated in Exhibit 5. These labor data are collected by operations, according to garment style numbers. As a result, average labor costs will shortly be developed for all operations performed on all styles produced, and from these actuals, standard labor unit costs can be readily determined upon.

Exhibit 5

OPERATION					STYLE NO.		
	DATE	NAME OR NO.	RATE	TIME	AMOUNT	QUANTITY	UNIT COST

Exhibit 5 illustrates the procedure splendidly but it will often be found a cumbersome form to use. A suggested plan is to file all labor tickets shown in Exhibits 2 and 3 by operations according to garment symbols. At the end of the month, compile the total hours and quantities shown on all tickets for each operation performed on each garment symbol, and post these totals to Exhibit 5. Then price the hours at an average hourly wage rate for the oper-

		STOP	Date
		START	Order No.
		STOP	DESCRIPTION OF WORK OR S. O. NO.
		START	
		STOP	
		START	
		STOP	
		START	INDIRECT LABOR TICKET
		STOP	Date
		START	Order No.
		STOP	DESCRIPTION OF WORK OR S. O. NO.
		START	
		STOP	
		START	
		STOP	
		START	INDIRECT LABOR TICKET

Exhibit 4

atives involved and, as a result, extend the unit labor cost. In any event, it should be remembered that as soon as satisfactory standard labor unit costs have been determined, these labor reports and compilations will be discontinued.

A form to use in reporting indirect labor distribution is shown in Exhibit 4. This is particularly used by repair men or other laborers who perform varying indirect jobs. When used, these tickets will form the basis for splitting indirect labor among the several expense accounts.

Burden Control

In the case under consideration, burden has been separated into the two basic classes of mill burden and commercial expense. By referring to the chart of accounts, Exhibit 1 herewith, it will be noted that all mill burden accounts are reflected in Column L, while commercial expense accounts are set forth in the M column. Although the plan under description provides for a completely tied-in cost system, the expense or burden accounts are operated exactly the same as would be the case if commercial accounting only were in use. Therefore, in the monthly handling of the accounts in columns L and M, no change from orthodox practice is made necessary by the proposed plan.

The principal distinction between mill burden and commercial expenses is that the former represents proper inventory additions, while the latter must not be allowed to find their way into inventories. Therefore, at the end of the month the total actual expenses that have accumulated in the mill burden accounts, L1 through L13, will be cleared to burden cost variance account, F6, through the medium of the clearing account, L15. Likewise, the actual commercial expenses for the month as shown in accounts, M1 through M11, will be cleared to commercial expense variances account, F7, by means of commercial expense clearing account, M15. Consequently, the two burden clearing accounts will always contain credit balances that will exactly equal all the net debits accumulated in the L and M column accounts.

Obviously, one of the fundamental principles of any plan of accounting that provides monthly operating results is that each month must be placed upon a finished business basis to the greatest possible extent. This means that all expenses and charges which arise only once a year or at other infrequent intervals must be taken into the accounting each month on a pro rata basis. Obvious items of this character include insurance, taxes, depreciation and bad debts. Unless this class of sporadic expenses is provided for, the monthly figures will be of little value and can prove highly misleading.

We have now transferred the actual burden from the expense accounts to the burden variance accounts and this result has been accomplished without closing a single expense account.

Proof of Costs Through Cost Variance Accounts

In the early days of so-called tied-in "cost systems" (and I detest that word "system") the accuracy of the monthly profit and loss statement depended entirely upon the correctness of the costs which were used as a basis for pricing the sales for the month. In a business doing a substantial volume and particularly if it happened to be a factory which produced a wide variety of products, a small factor of cost error could easily throw the final profit and loss for the month so far awry that its benefits become lost. In fact, it frequently became a misleading and dangerous figure. Therefore, in order to plug up this weakness, great detail was often entered into to make sure that the costs as used would be relatively accurate. I use the word "relatively" advisedly, because it is a practical impossibility to obtain absolute actual costs in a complicated manufacturing business. These data which represented historical information and which were usually compiled at considerable clerical cost often failed to benefit the management in proportion to the outlay, and usually the monthly profit and loss statement would still not set forth the correct condition.

Management demanded something better and progressive cost accountants responded. Standard costs with variance accounts control was the answer. Under this plan, the question of what the product should cost is determined in advance and is then allowed to stand until the product is changed, the method of production is altered and cost consequently changed or until fundamental errors in the standards have been detected. Naturally, these standard costs provide the management with a constant operating time table. Setting up the standard costs is quite largely a matter of knowledge of the business, coupled with sound fundamental analysis, always, of course, co-ordinated with the basic plan of accounting control as reflected through the chart of accounts. But as all cost accountants know, the mere decision to produce a given product at a cost of so-and-so is no assurance that the actual cost will in fact be that figure. Actually, it is at least a thousand to one short that the actuals and standards will never exactly agree. Hence the essential need of some simple means of harnessing these two factors, placing them under constant control and holding their elements up to the scrutiny of the interested officials. Cost variance accounts provide this function.

The plan under discussion provides the following cost variances accounts:

F1. Yarn Cost Variances
F2. Webbing Cost Variances
F3. Waste Variances
F4. Findings Variances
F5. Labor Cost Variances
F6. Burden Cost Variances
F7. Commercial Expense Variances

In prior sections, the procedure for making charges against these cost variances has been explained. It may be advisable to once again emphasize the point that all debits to these accounts shall be at actual cost while all credits to them shall be at standard cost. A thorough understanding of this basic principle is absolutely essential to any attempt to operate a standard cost plan in the knitting or in fact in any other industry.

Material Standards

All material consumed during the month must be priced at standard cost. This will represent the same essential material that has been removed at actual cost from accounts B1, Wool Yarn; B2, Cotton Yarn; B3, Worsted Yarn; B4, Webbing Purchased; and B7, Supplies. Just how this step is to be accomplished will depend upon the problems of the individual mill but in the plant in question, the mill manufacturing order supplied the means. As these orders were issued, the standard material requirements were tabulated on a columnar sheet. At the end of the month, these material classes were priced at standard cost and as a result, the proper figures were obtained to use as a credit to each of the variance accounts, F1 through F4, with offsetting debits to the two work-in-process material accounts, B9 and B10.

Labor Standards

The mill manufacturing order also supplied the basis for determining upon the standard labor needed to produce the work put in process. This standard labor for the month when priced at standard cost will furnish the data necessary to credit F5, Labor Cost Variances, and debit B11, Work in Process Labor.

Mill Burden Standards

The mill in question used a single percentage on labor rate for applying mill burden to costs. No, I do not believe it is entirely correct, but I likewise believe it is, practically speaking, satisfactory. Further discussion of the theory of burden application will be found in a subsequent division of this thesis dealing with the burden budget. For purposes of transferring the standard burden cost for the month from F6, Burden Cost Variances account, to B12, Work in Process Burden account, it is simply necessary to multiply the standard labor cost for the month as previously determined by the budget mill burden rate and as a result obtain the standard mill burden cost for the month.

Commercial Expense Standards

A budget is prepared for commercial expenses as well as for mill burden. Commercial expenses are applied to costs as a percentage of total mill cost. This method is far from scientific. In fact, it is quite illogical in many respects. But in the average medium-size mill, it is a satisfactorily practical method and I use it extensively under conditions of this kind. Therefore, the total cost of sales for the month when priced at mill standard cost, multiplied by the standard budget commercial expense rate, will produce the standard commercial expense for the month. This figure will be credited to F7, Commercial Expense Variances, with an offsetting debit to J15, Commercial Cost of Sales.

From the foregoing brief exposition, it will be seen that the several cost variances accounts, F1 through F7, have been debited with all actual costs of material, labor and burden used during the month in the process of turning out production. On the other hand, these same variances accounts have been credited with the predetermined standard cost of this output. Hence, the amounts by which actuals vary from standards are plainly evident according to major classes. Then if the variances so warrant, it becomes simply a matter of analysis to go behind the variances to determine the reasons for their existence. Thus, analytical calculation is only resorted to when a danger signal appears. Actually, these cost variances accounts are filters through which all costs must pass in review for the benefit of the management. They constantly show whether the time tables are being observed.

Furthermore, the amounts shown in the cost variances accounts are not allowed to find their way into cost figures or cost of sales at any point. They are not costs. The standards are considered to represent the true costs and these variances simply show the efficiency of the actual operations. Therefore, these variances accounts balances are transferred directly to profit and loss on the monthly profit and loss statement. Physically, however, these variances accounts are only closed to profit and loss on the books at the close of the fiscal period.

Work in Process and Cost of Sales

At this point, the raw material accounts, B1 through B7, will show the actual monthly inventory at the lower of cost or market; the cost variances accounts, F1 through F7, will reflect the amounts by which actual and standard costs for the month are out of harmony, and the standard cost of work placed in process will have been charged to the four work in process accounts, B9 through B12.

All products billed out during the month will be priced at standard mill cost according to the four elements represented by the four work in process accounts. Actually, this step is accomplished by tabulating the daily shipments according to proper classifications in order that the costing can be done in a simple manner at periodic intervals during the month or in a single job at the end of the month. This standard cost of sales will be credited to each of the proper four work in process accounts, with offsetting debits to the appropriate cost of sales accounts, J11 through J14. When this has been done, the work in process accounts will set forth the monthly inventory of goods in process at standard cost, while the mill cost of sales accounts will show the standard cost of goods included in the sales accounts for the month. Procedure for obtaining standard commercial cost of sales for the month has been explained in a previous section.

In the plant in question, no finished goods account is carried. This step can be inserted if desired but it is not recommended unless a considerable stock of finished goods is carried and shipments usually made from stock instead of from special orders. If this is done, the credit to work in process and offsetting debit to finished goods will be made as the result of pricing mill pro-

duction at standard mill cost. Likewise, the credit to finished goods with offsetting debit to mill cost of sales will be had from the pricing of billings at standard mill cost.

It so happens that in the mill under consideration, it was found advisable to operate the four work in process accounts. Actually, a single work in process account will usually suffice. Particularly is this true when a sufficiently exhaustive series of cost variances accounts is in operation.

Cost Calculating

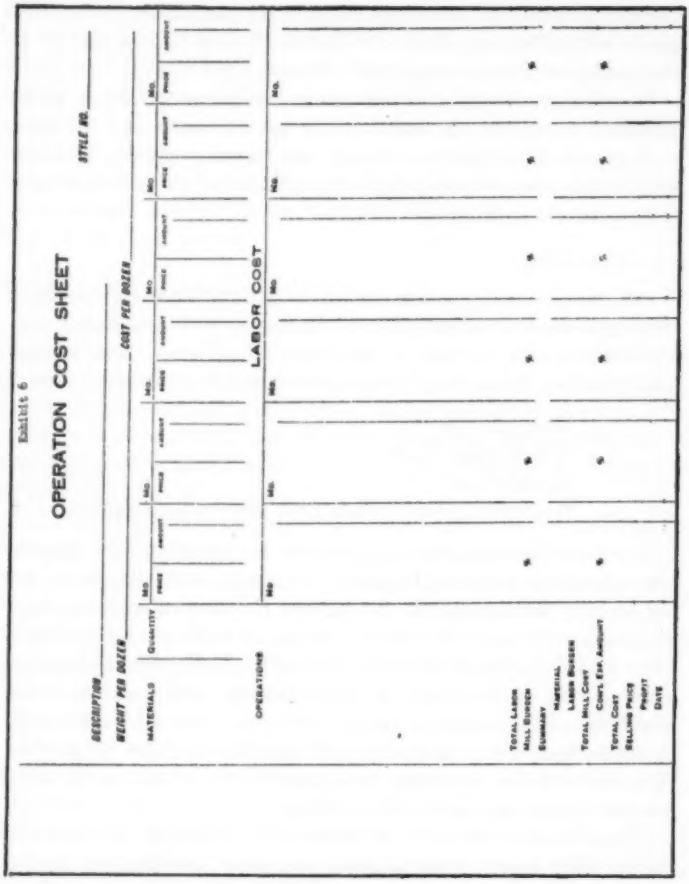
All product costs shall be set up on a standard basis and these standards when compiled must co-ordinate with the accounting control structure as outlined in the chart of accounts. The control plan provides for division of costs into the following four classes:

1. Material Cost
2. Direct Labor Cost
3. Burden Cost
4. Deductions from Selling Price and Other Charges

Our cost sheet, therefore, must allow for standard cost compilation according to these divisions. Two suggested cost sheets are set forth in Exhibits 6 and 7. The first provides columns in which to refigure the costs six different times on each side of the sheet. This form is useful in the early days of the installation if standard costs are set up on a more or less estimated basis and not as the result of careful analytical study. When the costs have been satisfactorily determined upon, they will usually stand for a considerable period unless operating conditions change or the raw material market is gyrating at an abnormal rate.

The cost sheet shown in Exhibit 7 is a condensed standard cost sheet. Only major material items and labor classifications are reflected. Subsidiary detail records will be maintained in support of these condensed sheets.

The cost sheet performs a pivotal function in the standard cost plan. It shows the predetermined cost of each product as a matter of course. But it also provides the standard figures to use as a basis for crediting the cost variances accounts and for debiting work in process. Also, from these sheets must come the data for pricing sales which, in turn, provides the means of clearing work in



process. Consequently, much care must be exercised in setting up these cost sheets and in keeping them reflective of the standard operating situation at all times.

The Burden Budget

Prior reference has been made to the use of a percentage on labor rate to use in applying mill burden to costs. Actually, bur-

EXHIBIT 7

COST SHEET

Description		Style No. Weight per Doz.
MATERIAL	*Subtotals*	*Totals*
Lbs. @		
Findings		
Thread		
Buttons		
Cambric		
Labels		
Total Material		
LABOR		
Knitting		
Pressing		
Cutting		
Seaming		
Finishing Seams		
Hemmings		
Markings		
Putting on Buttons and Labels		
Folding		
Total Labor		
Mill Burden %		
Total Mill Cost		
Commercial Expense %		
Total Cost		
Selling Price		
Less Deductions and Other Charges		
Net Selling Price		
Net Profit		

den application and control is relatively simple, yet it is in this field that costs most frequently go astray in the usual mill. Before setting up the standard costs, it is essential to know what burden rate to use and this answer can only come from the burden budget. A simple form to follow in preparing this budget follows:

MILL BURDEN BUDGET—1936

Symbol	*Name*	*Actual Last Year*	*Budget This Year*
L1	Superintendence		
L2	Indirect Labor		
L4	Rent		
L5	Light, Heat and Power		
L6	Repairs		
L7	Supplies Used		
L9	General Mill Expense		
L11	Insurance		
L12	Taxes		
L13	Depreciation		
	Total Mill Burden		
	Total Direct Labor		
	Burden Rate %		

No items are included in this burden budget that are not covered by the mill burden accounts set forth in Column L of the chart of accounts. When this budget burden rate is arrived at, it will be used in all cost calculating and as a basis for charging standard burden to work in process as previously explained.

One of the objections frequently raised against the percentage of labor burden method is that fluctuating labor rates introduce corresponding burden application variations. This weakness is eliminated in the proposed plan for the reason that standard labor costs are used throughout in cost calculating. Therefore, labor rates in a given operation will, for cost purposes, be uniform.

The use of a single mill burden rate can be objected to with considerable justification. In this connection, I ask the reader to remember that I am presenting a plan that has been found of value in a medium size knitting mill and that I am not advocating the use of a single rate as such. The important point to bear in mind is that the extent of the burden splitup by application centers is completely divorced from the general basic control plan. If, in the case under consideration, six burden rates instead of one had been used, that fact would not in itself alter the burden accounts shown in column L of the chart or change the plan of variances accounts control. This further breakdown would be done through the use of subsidiary records which, in turn, would be controlled by the accounts reflected on the chart.

The extent of burden breakdown shall depend entirely upon the local mill situation. Not infrequently, intensive burden analyses

will be found in mills where much simpler data would be of equally informative value and entail less clerical effort. Cost accounting has now been in existence long enough to have developed traditions and one of these seems to be the use of exhaustive burden analysis, frequently on general principles only. I am not advocating elimination of burden statistics where they are needed. I am, however, most strongly advocating open-minded study on the part of the cost accountant to make sure that they are in fact needed. Now, burden analysis is required for two fundamental reasons; first, to aid management in its fight to control expenses, and secondly, to provide accurate product costs. Therefore, burden must be analyzed and broken down sufficiently to meet these two needs. It should in no instance be analyzed further, regardless of departmental rate traditions.

Should it be found advisable in a given mill to develop more than a single rate, the following suggestions may have value as an aid in splitting expenses to the centers of burden application:

Account	*Basis of Distributtion*
Superintendence	Total mill payroll
Indirect Labor	Direct from departmental payroll analysis
Rent	Floor space occupied
Light	Estimated relative kilowatt consumption
Heat	Floor space adjusted by usage factor
Power	Average horsepower operating hours
Repairs—Machinery	Actual or by relative valuation
—Buildings	Actual or by floor space
Supplies Used	Actual
General Mill Expense	Actual
Insurance }	On Machinery—according to valuation
Taxes }	On Buildings—according to adjusted floor space
Depreciation	Compensation insurance and social security taxes would be distributed on total payroll basis

The general setup in making this distribution would be to list the account names at the left of a columnar sheet with sufficient columns at the right for each burden application center and one for general factory. The latter column would receive all items that could not properly be charged directly to any given center. This general factory column will then be redistributed on the basis of total factory payroll.

At this point, the question naturally arises regarding the volume of output to use as a standard in arriving at the burden budget. Great judgment is needed in determining this factor. Some years

EXHIBIT 8

MONTHLY PROFIT AND LOSS STATEMENT

		January		*February*	
		Month	*To Date*	*Month*	*To Date*
	SALES:				
J1	Sweater Sales				
J2	Jersey Sales				
J3	Bathing Suit Sales				
J4	Other Product Sales				
	Total Sales				
	Deductions:				
J7	Returns and Allowances				
J8	Discounts Allowed				
J9	Freight Out				
	Total Deductions				
	Net Sales				
	COST OF SALES:				
J11	Cost of Sweater Sales				
J12	Cost of Jersey Sales				
J13	Cost of Bathing Suit Sales				
J14	Cost of Other Product Sales				
	Total Mill Cost of Sales				
J15	Commercial Cost of Sales				
	Total Cost of Sales				
	Standard Operating Profit				
	COST VARIANCES:				
F1	Yarn Cost Variances				
F2	Webbing Cost Variances				
F3	Waste Variances				
F4	Findings Variances				
F5	Labor Cost Variances				
F6	Burden Cost Variances				
F7	Commercial Expense Variances				
	Total Cost Variances				
	Actual Operating Profit				
K1-9	Other Income and Charges—Net				
	Net Profit—Amount				
	% on Sales				

ago, the plant's productive ability determined the production budget. That is all changed. The plant's selling ability now contains the answer. Therefore, the first step is to sit down with the sales manager and obtain from him a definite estimate of the goods he expects to sell during the budget period. This must not consist simply of his offhand estimate that "We expect to sell $1,000,000 worth of goods next year; things are on the up and up." He should provide a sales quota budget by products by territories, showing units of product, prices and total budgeted sales. Then this budget should be carefully studied with the manufacturing division and the general management. After all these things have been done, and only then, should the sales budget be accepted for cost purposes.

The commercial expense budget uses the accounts shown in column M of the chart of accounts. When the budget figure for each of these accounts has been determined, the sum of all the the balances will set forth the total budgeted commercial expense for the year or other period. Dividing this amount by the mill cost of budgeted sales for the same period will set forth the rate to use in applying commercial expense to cost.

Monthly Statements

The proposed plan readily lends itself to the preparation of any desired monthly statements. Two of these reports that should be had by every executive are the monthly profit and loss statement shown in Exhibit 8 and the monthly burden statement reflected in Exhibit 9. The profit and loss statement contains space for the figures shown in all of the accounts contained in the J, K and F columns of the chart of accounts. This statement is not simply a reflection of the operating results for the particular month or period. It is very definitely an operating unit of measurement. The sales less deductions and the resulting net sales are first inserted. Then the standard cost of these sales is entered, with the result that the operating profit at standard cost is reflected. This latter is the profit that should have been made if all standards as predetermined upon had been lived up to. Cost variances next are inserted. These show clearly and graphically the amounts by which the time table failed to reflect actual operating. And finally, the actual operating profit is shown. Thus we have the three

EXHIBIT 9

MONTHLY BURDEN STATEMENT

		January		*February*	
		Month	*To Date*	*Month*	*To Date*
	MILL:				
L1	Superintendence				
L2	Indirect Labor				
L4	Rent				
L5	Light, Heat and Power				
L6	Repairs				
L7	Supplies Used				
L9	General Mill Expense				
L11	Insurance				
L12	Taxes				
L13	Depreciation				
	Total Mill Burden				
	Total Direct Labor				
	Burden Rate				
	COMMERCIAL:				
M1	Officers' Salaries				
M2	Office Payroll				
M3	Tel., Tel. and Postage				
M5	Office Supplies and Expense				
M6	Officers' Insurance				
M9	Store Expense				
M10	Traveling Expense				
M11	Loss on Bad Accounts				
	Total Commercial				
	Total Mill Cost of Sales				
	Expense Rate				
	*SALES DEDUCTIONS AND OTHER CHARGES:				
J8	Discounts Allowed				
J9	Freight Out				
K8	Interest Paid				
K9	Other Expense				
	Total Deductions and Other				
	Total Mill Cost of Sales				
	Rate				

* Statistical Data Only.

vitally necessary figures; the profit that should have been made, the profit that was made and the reasons for the difference. Furthermore, all figures are shown comparatively. This statement means much to the operating executive in terms of mill management.

Exhibit 9 reflects a suggested burden statement. This report contains space for entering the balances shown in the accounts set forth in columns L and M of the chart of accounts, plus sales deductions and other charges. Here again, the figures are shown comparatively from month to month and for the year to date. For statistical purposes, the actual burden rate for the month and to date is shown as compared with budget standard rate.

A monthly balance sheet can also be readily prepared. It is simply a matter of entering the balances reflected in all of the accounts contained in columns A through H of the chart, plus the final profit or loss set forth on the profit and loss statement. This balance sheet can also be set up in columnar comparative form.

Regardless of all the street corner talk about big business, the bulk of manufacturing in this country is done in medium and small plants. Those are the fellows who in the last analysis employ the greatest number of people and provide for our manufacturing requirements. And they are the business men who must have simple effective cost methods shorn of all bunk. This paper is intended as a small contribution to this cause.

BIBLIOGRAPHY

COST ACCOUNTING FOR THE KNITTING INDUSTRY

General:

Cost Accounting System Which Ties in with the General Books. C. L. St. Clair. American Accountant, 225 Broadway, New York, N. Y. June, 1930.

Cost Control for Knit Underwear Factories. Walter T. Fitzpatrick. Canadian Textile Journal, August 23, November 15 and December 13, 1928; January 10 and February 7, 1929.

Cost Finding in Knitting Mills. Stephen R. Gordon. McGraw-Hill Book Co., 330 W. 42nd St., New York City. 1923. 204 pp.

Cost Finding System at Minneapolis Knitting Works Takes Guesswork Out of Manufacturing. Textile World, 330 W. 42nd St., New York, N. Y. January, 1933.

Cost Manual and Accounting Control for Woven Underwear. Underwear Institute, Gloversville, N. Y. 1935. 16 pp.

Standard Costs for Knitted Goods Industry. Pathfinder Service Bulletin, 330 N. Los Angeles St., Los Angeles, Cal. April, 1934.